



VOLUNTARY REMEDIATION PROGRAM DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

PROJECT SUMMARY

Site Name:	Lox Equipment (Former)
Applicant's Name:	MVE Corporation
Site Location:	9701 State Road 25 North Delphi Carroll County
VRP Site Number:	6951201
Project Manager:	Ed Joniskan
Date Application Received:	December, 1995
Date Project Completed:	November, 1998
Project Duration:	2 years, 11 months
Contaminant Group(s):	Volatile Organic Compounds (VOCs), Metals, Acids
Media Cleaned Up:	Surface Soil, Subsurface Soil, Groundwater
Cleanup Goals Achieved:	Tier II and Tier III
Deed/Land Use Restrictions:	Non-Residential

Project Description: In 1987, Minnesota Valley Engineering, Inc. (MVE) purchased and operated the facility as Lox Equipment Company until 1993. The facility was used by Lox Equipment Company and its predecessors for the manufacture and repair of cryogenic vessels, trailers, and rail cars. Since 1979, general practices at the facility involved receiving new parts and products, welding materials, cleaning tanks and vessels, and priming/painting the tanks and vessels. Various lubricants, paint and paint products, acid solutions, fuel oil, gasoline, and 1,1,1-trichloroethane (TCA) were used at the facility. Sandblasting equipment and hydrochloric or phosphoric acids were commonly used to clean vessels

As a result of a 1991 RCRA inspection, a Notice of Violation letter (VL-11081) was sent to the facility. The letter cited the facility for the discharge of hazardous waste (spent acid solutions) and directed the facility to prepare and submit a site assessment plan.

Twice during the summer of 1995, a private residential groundwater well exploded. The home is approximately 700 feet northwest of the Facility. The local fire department responded to the scene of

the explosions on both occasions. The fire department tested the air emanating from the home's well pit with gas detectors and concluded that the presence of an unknown gas in the well was the result of the two explosions. IDEM was notified and subsequently sampled the well. Results indicated the presence of chloroethane. Based upon these results, IDEM recommended that the owner not use his groundwater for drinking or cooking. There is no federal or state drinking water standard for chloroethane.

It was concluded that the explosive conditions may have resulted from a combination of two conditions: 1) a relatively dry summer in which the water table was lower than normal which would provide a greater vapor headspace for the accumulation of gases; and 2) the presence of explosive gas (probably methane or hydrogen sulfide) that is naturally-occurring within certain sections (primarily the New Albany Shale) of the bedrock aquifer in which the well is placed.

Subsequent groundwater sampling of the well by the Facility's environmental consultant indicated the absence of detectable volatile organic compounds except for the presence of bromomethane at 3 parts per billion (ppb). There is no federal or state drinking water standard for bromomethane.

The facility's two documented releases of volatile organic compounds (VOCs) include: 1) in late 1986 a small quantity of wastewater containing TCA was released, impacting soils that were subsequently excavated and disposed of as hazardous waste; and 2) a leak from a 200-gallon TCA above ground storage tank placed east of the former Alloy Shop/Small Bay. Impacted soils were excavated and the tank was removed from service.

The Phase II Investigation results indicated that the shallow soils and groundwater at the facility have been impacted by *de minimis* release(s) of VOCs, which is likely attributable to past operations at the facility. However, the concentrations do not exceed Tier II Nonresidential cleanup goals, or where none exist, Region II and IX Nonresidential cleanup goals.

Confirmation sampling verified that soil contamination levels of VOCs and total metals are below VRP Tier II Residential cleanup goals or, where no Tier II standards exist, EPA Region III or Region IX's Residential risk-based concentrations. Groundwater concentrations indicated that Tier II Nonresidential cleanup goals have been met for the chemicals targeted for this voluntary effort.